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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,078	03/16/2005	Holger Luethje	1-16784	8778
1678	7590	05/16/2006	EXAMINER	
MARSHALL & MELHORN FOUR SEAGATE, EIGHT FLOOR TOLEDO, OH 43604			DAVIS, OCTAVIA L	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/511,078

Applicant(s)

LUETHJE ET AL.

Examiner

Octavia Davis

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,5 and 7-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,4,5 and 7-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 10/12/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11 – 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sonderegger et al (3,151,258).

Regarding claim 11, Sonderegger et al disclose a device for measuring the forces between components of an assembly comprising a check device having means for signal value pick-up 33 from an annular measuring element 15 separate and distinct from force applying elements 13, 14 but acted on by the force applying elements (See Col. 3, lines 5 – 13, 31 – 38 and 64 – 70) and whose electrical resistance is continuously variable as a function of the operative axial force (See Col. 5, lines 43 - 56).

Regarding claims 12 - 14, the annular measuring element 15 includes component discs 16, 17 with a piezoelectric crystal device 18 arranged between them that includes two ring shaped crystal discs 21, 22 that produce voltages when a pressure acting in the axial direction of the washer acts thereon (See Col. 3, lines 13 – 30).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 5 and 7 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walton (5,291,789) in view of Sonderegger et al (258').

Regarding claim 1, Walton discloses a load indicator comprising a check device for limiting an axial force operating between force-applying elements 11, 13 of a screw joint, the check device including signal value pick-up means 133, 136 from a measuring element whose electrical resistance is variable as a function of the operative axial force (See Col. 3, lines 13 – 17, Col. 4, lines 55 – 64, Col. 5, lines 1 – 7 and Col. 6, lines 3 – 35 and 46 – 51) but does not disclose that the measuring element is in the form of a washer. However, in Sonderegger et al, a constructional element of which is a machine element constitutes a measuring element that is in the form of a washer 15 (See Col. 3, lines 9 – 13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Walton according to the teachings of Sonderegger et al for the purpose of, utilizing a measuring washer to measure the compressive force transmitted through a bolt or a nut (See Sonderegger et al, Col. 3, lines 9 – 10 and Col. 5, lines 49 – 37).

Regarding claim 4, in Walton, the signal value pick-up means has contact members 124, 131 (See Col. 5, lines 42 – 49 and 65 – 67 and Col. 6, lines 24 – 28).

Regarding claim 5, in Walton, the signal value pickup means 133, 136 perform simultaneous measurement of one or more signal values (See Col. 6, lines 46 – 63).

Regarding claim 7, in Walton, the device provides an electrical connection to the electrical earth terminal to the measuring element 28, 29 (See Col. 6, lines 41 – 51).

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Regarding claim 8, in Walton, a plurality of connection parts 24, 25 are located in the force applying means 13 and are made of metal (See Col. 4, lines 20 – 31).

Regarding claim 9, in Walton, the fixing component 12 is designed for fixing a recessed head 13,16 (See Col. 3, lines 23 – 25).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walton and Sonderegger et al, as applied to claims 1, 4, 5 and 7 – 9 above, and further in view of Payne (4,041,776).

Regarding claim 10, Walton and Sonderegger et al disclose all of the limitations of these claims except for an acoustic or optical indicating device for adjusted axial force values. However, Payne discloses a strain indicator 36 comprising an optical indicator which upon projection causes its brightly colored external surface 48 to be exposed which indicates that a decrease in load on the fastener has taken place (See Col. 4, lines 20 – 26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Walton and Sonderegger et al according to the teachings of Payne for the purpose of, utilizing an optical indicator to output a visual indication that a fastener is in a

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loosened condition to apply an appropriate torque to the fastener to re-0extableis take up (See Payne, Col. 4, lines 27 - 33).

### ***Response to Arguments***

7. Applicant's arguments with respect to these claims have been considered but are moot in view of the new grounds of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goodwin (5,615,575) discloses a method to accurately determine and assure proper clamping forced or bolt tension in fastening systems.

Stengel (5,280,725) discloses a process and device for non-destructive determination of the pre-stressing condition of ferromagnetic securing elements.

Jenco et al (5,717,143) disclose an apparatus for illustrating bolt preloads.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 6. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Octavia Davis*

OD/2855

5/8/06

*Max Noori*  
MAX NOORI  
PRIMARY EXAMINER